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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.          | CONFIRMATION NO.       |
|---|-------------|----------------------|------------------------------|------------------------|
| 10/564,234  | 01/11/2006  | Shinichi Tsukahara   | MAT-8774US                   | 7541                   |
| 52473   | 7590        | 12/30/2008           |                              |                        |
| RATNERPRESTIA<br>P.O. BOX 980<br>VALLEY FORGE, PA 19482 |             |                      | EXAMINER<br>CHAWAN, SHEELA C |                        |
|   |             |                      | ART UNIT<br>2624             | PAPER NUMBER           |
|   |             |                      | MAIL DATE<br>12/30/2008      | DELIVERY MODE<br>PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

|                              |                                      |  |  |
|------------------------------|--------------------------------------|--|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/564,234 | <b>Applicant(s)</b><br>TSUKAHARA, SHINICHI |  |
|                              | <b>Examiner</b><br>SHEELA C. CHAWAN  | <b>Art Unit</b><br>2624                    |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 11 January 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 January 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>1/11/06, 10/3/07, 10/16/07</u> | 6) <input type="checkbox"/> Other: _____  |

***DETAILED ACTION***

***Preliminary Amendment***

1. Preliminary amendment filed on 1/11/06 has been entered.  
Claims 1- 11 are pending in the application.

***Priority***

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

***Information Disclosure Statement***

3. The information disclosure statement (IDS) submitted on 1/11/06, 10/3/07, 10/16/07, the information disclosure statement is being considered by the examiner.

***Drawings***

4. The Examiner has approved drawings filed on 1/11/06.

***Claim Rejections - 35 USC § 101***

5. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim(s) 10 and 11 are rejected under 35 U.S.C. 101 as not falling within one of the four statutory categories of invention. Supreme Court precedent<sup>1</sup> and recent Federal Circuit decisions<sup>2</sup> indicate that a statutory “process” under 35 U.S.C. 101 must (1) be tied to another statutory category (such as a particular apparatus), or (2)

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<sup>1</sup> *Diamond v. Diehr*, 450 U.S. 175, 184 (1981); *Parker v. Flook*, 437 U.S. 584, 588 n.9 (1978); *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972); *Cochrane v. Deener*, 94 U.S. 780, 787-88 (1876).

<sup>2</sup> *In re Bilski*, 88 USPQ2d 1385 (Fed. Cir. 2008).

transform underlying subject matter (such as an article or material) to a different state or thing. While the instant claim(s) recite a series of steps or acts to be performed, the claim(s) neither transform underlying subject matter nor positively tie to another statutory category that accomplishes the claimed method steps, and therefore do not qualify as a statutory process.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-6 and 8 – 11, are rejected under 35 U.S.C. 102(e) as being anticipated by Min et al., (US. 6,760,467 B1).

As to claim 1, Min discloses a biometric identification device for identifying whether an object is a living eye or not, comprising:

a photographing part for photographing the object (fig 1, element 2, column 2, line 19);

a light irradiation part for irradiating light to the object at an angle different from a photographing angle at which the photographing part photographs the object ( column 2, lines 18-19, the light irradiation units are the LED's located on both sides of the

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camera , column 2, lines 18-19) ;

a partial light patch detection part for detecting a partial light patch on the object from an image photographed by the photographing part (note, this step is explained in column 2, lines 17-21); and

an information output part for outputting information indicative of whether the object is a living eye or not based on whether the partial light patch detection part has detected a partial light patch from the object (column 2, lines 17-30).

As to claim 2, Min discloses the biometric identification device of claim 1, wherein the information output part outputs the information indicative of that the object is a living eye when the partial light patch detection part has detected a partial light patch on the object (column 2, lines 26-30).

As to claim 3, Min discloses the biometric identification device of claim 2, wherein the photographing part photographs a first image while the object is irradiated by the light irradiation part, and a second image while the object is not irradiated by the light irradiation part (column 2, lines 17-21, the reflected light derived the LED is photograph after being reflected by the pupil of eye which is the same task mentioned in the application); and

the partial light patch detection part compares the first image and the second image, thereby detecting the partial light patch on the object from the image photographed by the photographing part ( column 2, lines 17-24, the reflected light corresponds to ( patch light) from the pupil then the corresponding LED in an indicator that the object is a living eye) .

As to claim 4, Min discloses the biometric identification device of claim 2, wherein the light irradiation part comprises:

a plurality of irradiation parts for irradiating light to the object at angles different from the photographing angle at which the photographing part photographs the object( note, the two LED's are positioned on either side of the camera(fig 1, element LED – L , LED – R, ELEMENT 2, ALSO COLUMN 2, LINES 64- 66);

a lighting on-off control part for controlling lighting on-off of the plurality of irradiation parts( column 2, line 60, LED control signals control the LED's , plurality of irradiation part) ; and

a light patch position detection part for detecting a position of the partial light patch on the object detected by the partial light patch detection part, wherein the photographing part photographs a plurality of images while the lighting on-off control part selectively turns on and off the plurality of irradiation parts, and the information output part outputs information indicative of whether the object is a living eye or not based on positions of respective partial light patches of the plurality of images detected by the light patch position detection part ( column 2, lines 26-27, the reflected image (light patch)is photographed and the irradiation from the LED's controlled by a control signal, column 2, lines 24- 30).

As to claim 5, Min discloses the biometric identification device of claim 4, wherein the information output part outputs information indicative of that the object is a living eye in a case where the plurality of images photographed while the lighting on-off control part selectively turns on and off the plurality of irradiation parts contain partial

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light patches at different positions from each other ( column 2, lines 3`1-52, also explains the steps in the photographing reflected light ( light patches) and how this is used in recognizing whether the object is a living object or not).

As to claim 6, Min discloses the biometric identification device of claim 2 further comprising a pupil area detection part for detecting a pupil area from the image photographed by the photographing part, and the partial light patch detection part determines that the image contains a partial light patch in a case where the pupil area detected by the pupil area detection part is not substantially circular ( column 2, lines 33- 40, pupil detection by image signal processing , includes the reflected image of corresponding LED light (partial light patch).

As to claim 8, Min discloses an authentication device provided with the biometric identification device of claim 1 (column 3, lines 52- 58, fig 3, S4 to S13).

As to claim 9, Min discloses the authentication device of claim 8 comprising:  
an authentication information formation part for forming predetermined authentication information from the image photographed by the photographing part when the biometric identification device has determined that the object is a living eye ( fig 1, column 2, lines 12- 30, the image of pupil and iris are processed and is of good quality (focused), and in stored in a data base);

a storage part for storing registered authentication information, which is previously registered (column 2, lines 24- 26, the data base, stored information in the device memory); and

a comparison and collation part for comparing and collating the predetermined

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authentication information formed by the authentication information formation part and the registered authentication information stored in the storage part ( column 2, lines 24-28, with the stored image for authentication ).

As to claim 10, Min discloses a biometric identification method comprising: a first step of irradiating light to an object (column 2, lines 31- 52);

a second step of photographing an image of the object (column 2, line 37, irradiating (lighting) the eye);

a third step of detecting a partial light patch from the image of the object (note, capturing the image (photographing) column 2, line 35); and

a fourth step of determining that the object is a living eye when a partial light patch on the object has been detected ( column 2, line 39, capturing light patch( imaging the eye and detecting the reflected image of corresponding LED in the image of iris and pupil, column 2, lines 45- 46, determining the object's authenticity).

As to claim 11, Min discloses a biometric identification method comprising:

a first step of irradiating light to an object in a first direction (column 2, lines 18-19, selecting lighting the LED's (first direction and later second direction);

a second step of photographing a first image of the object (note, photographing the irradiated object in sequence (first LED- first image, second LED second image) ;

a third step of detecting a position of a first partial light patch from the first image (note, all these steps are done in sequence as explained in column 2, lines 14- 28);

a fourth step of irradiating light to the object in a second direction different from the first direction (note, all these steps are done in sequence as explained in column 2,



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lines 14- 28);

a fifth step of photographing a second image of the object; (note, all these steps are done in sequence as explained in column 2, lines 14- 28);

a sixth step of detecting a position of a second partial light patch from the second image (note, all these steps are done in sequence as explained in column 2, lines 14- 28);

a seventh step of comparing the position of the first partial light patch and the position of the second partial light patch( note, all these steps are done in sequence as explained in column 2, lines 14- 28);; and

an eighth step of determining that the object is a living eye when the position of the first partial light patch and the position of the second partial light patch are different from each other( note, all these steps are done in sequence as explained in column 2, lines 14- 28);

### ***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

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the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Min et al., (US. 6,760,467 B1), as applied to claims 1-6 and 8-11, above and further in view of Oda (US. 6,542,624 B1, Listed in IDS).

Regarding claim 7, Min discloses falsification discrimination method for iris recognition system. Min is silent about histograms of the first image and second image.

Oda discloses iris code generation device and iris identifying system. The system comprises of:

the biometric identification device wherein the partial light patch detection part detects a partial light patch by comparing intensity histograms of the first image and the second image (column 4, lines 31-45, this explains the generation of a check code).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Min to include histogram of first and second image. It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Min by the teaching of Oda in order to provide the authenticity of an image of an eye inputted into the system (as suggested by Oda at column 4, lines 22-24).

***Other prior art cited***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Lai et al., (US. 6,761,454 B2) discloses apparatus and method for determining objective refraction using wavefront sensing.

Mori (US. 6,803,991 B2) discloses exposure amount control method in exposure apparatus.

Lia et al., (US. 2005/0174535 A1) discloses apparatus and method for determining subjective responses using objective characterization of vision based on wavefront sensing.

Suzuki et al., (US. 7, 293, 874 B2) discloses apparatus for measuring anterior ocular segment.

***Contact Information***

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to SHEELA C. CHAWAN whose telephone number is (571)272-7446. The examiner can normally be reached on 7.30- 5.00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Werner can be reached on 571-272-7401. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free)? If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Sheela C Chawan/

12/20/08

Primary Examiner, Art Unit 2624

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